We Claim:

1. A method of fabricating filter devices, which comprises the steps of:

providing a carrier wafer carrying a plurality of filters;

providing a capping wafer;

bonding the capping wafer to the carrier wafer, with the filters disposed in cavities between the carrier wafer and the capping wafer; and

separating the bonded wafers into single filter devices, each single filter device having a carrier substrate carrying at least one filter and a capping substrate, and the at least one filter being disposed in at least one cavity between the carrier substrate and the capping substrate.

2. The method according to claim 1, wherein the filters are acoustic wave filters.

3. The method according to claim 1, wherein the filters are Surface Acoustic Wave filters.

4. The method according to claim 1, wherein the filters are Bulk Acoustic Wave filters, and each Bulk Acoustic Wave filter includes at least one Bulk Acoustic Wave resonator.

5. The method according to claim 1, wherein the filters are Stacked Crystal Filters.

6. The method according to claim 1, wherein the carrier substrate further includes an integrated circuit.

7. The method according to claim 1, wherein the carrier substrate further includes a radio-frequency integrated circuit.

8. The method according to claim 1, which further comprises performing the step of bonding the capping wafer to the carrier wafer by using a direct bonding method.

9. The method according to claim 1, which further comprises performing the step of bonding the capping wafer to the carrier wafer by using an anodic bonding method.

10. The method according to claim 1, which further comprises performing the step of bonding the capping wafer to the carrier wafer by using an intermediate-layer bonding method.

11. The method according to claim 10, which further comprises performing the intermediate-layer bonding method as an AuSi eutectic bonding method.

12. The method according to claim 1, which further comprises performing a thinning step for reducing a thickness of at least one of the capping wafer and the carrier wafer, before performing the step of separating the bonded wafers into single filter devices.

13. The method according to claim 12, which further comprises performing the thinning step by grinding at least one of the capping wafer and the carrier wafer.

14. The method according to claim 12, which further comprises performing the thinning step by etching at least one of the capping wafer and the carrier wafer.

15. The method according to claim 1, which further comprises micromachining at least one of the capping wafer and the carrier wafer to provide space for the cavities.

16. The method according to claim 1, which further comprises structuring the capping wafer to provide pad openings.

17. The method according to claim 1, which further comprises producing interconnects before performing the step of separating the bonded wafers into single filter devices.

18. The method according to claim 17, which further comprises producing the interconnects as solder or metal bumps.

19. The method according to claim 1, which further comprises providing passive components on the capping wafer.

20. The method according to claim 1, which further comprises placing additional filters as flip-chips on top of the carrier wafer.

21. The method according to claim 20, which further comprises selecting the additional filters as at least one of acoustic wave filters and active/passive ICs.

22. A filter device, comprising:

a carrier substrate;

at least one filter carried by said carrier substrate; and

a capping substrate;

said carrier substrate and said capping substrate defining at least one cavity therebetween containing said at least one filter.

23. The filter device according to claim 22, wherein said at least one filter is an acoustic wave filter.

24. The filter device according to claim 22, wherein said at least one filter is a Surface Acoustic Wave filter.

25. The filter device according to claim 22, wherein said at least one filter is a Bulk Acoustic Wave filter including at least one Bulk Acoustic Wave resonator.

26. The filter device according to claim 22, wherein said at least one filter is a Stacked Crystal Filter.

27. The filter device according to claim 22, wherein said carrier substrate includes an integrated circuit.

28. The filter device according to claim 27, wherein said integrated circuit is a radio-frequency integrated circuit.

29. The filter device according to claim 22, which further comprises at least one contact pad for coupling said at least

one filter to a wiring substrate through at least one bonding wire.

30. The filter device according to claim 22, which further comprises at least one interconnection for coupling said at least one filter to a wiring substrate using flip-chip technology.

31. The filter device according to claim 30, wherein said at least one interconnection is a solder or metal bump.

32. The filter device according to claim 22, which further comprises passive components provided on said capping substrate.

33. The filter device according to claim 22, which further comprises additional filters disposed as flip-chips on top of said carrier substrate within said at least one cavity.

34. The filter device according to claim 33, wherein said additional filters are at least one of acoustic wave filters and active/passive ICs.